

FEDOROV, V. I.

PHASE I BOOK EXPLOITATION

SOV/4103

Levin, Moisey Yevseyevich, Georgiy Andreyevich Malinin, Mikhail Nikolayevich Mandrazhitskiy, Valentin Petrovich Sinitsyn, and Valeriy Ivanovich Fedorov

Zashchita ot sredstv massovogo porazheniya (Protection Against Means of Mass Destruction) 2nd ed. Moscow, Uchpedgiz, 1960. 176 p. 50,000 copies printed.

General Ed.: V. P. Sinitsyn, Candidate of Technical Sciences, and G. A. Malinin. Ed.: A. A. Korotkiy; Tech. Ed.: R. V. Tsypko.

is official
PURPOSE: This book is intended for the public instructors of PVO DOSAAF (Air Defence Organization under the All-Union Voluntary Society for the Promotion of the Army, Aviation and Navy).

COVERAGE: The book gives fundamental information on atomic, chemical, and bacteriological weapons and on means of individual and collective protection. It states that the problem has been studied sufficiently and that at the present time adequate means of protection exist for a well-organized and trained population. No personalities are mentioned. There are no references.

Card 1/3

Protection Against Means of Mass Destruction

SOV/4103

TABLE OF CONTENTS:

Introduction	3
Ch. 1. Modern Means of Attack From the Air	5
Ch. 2. Atomic Weapons and Their Casualty Effect	15
Ch. 3. High-Explosive, Fragmentation, and Incendiary Weapons	41
Ch. 4. Chemical Weapons and Their Casualty Effect	51
Ch. 5. Bacteriological Weapons and Their Casualty Effect	59
Ch. 6. Protective Equipment for the Individual	71
Ch. 7. Protective Equipment for Groups	86
Ch. 8. Protection of Food, Water, and Forage Against Contamination by Poisonous, Radioactive, or Bacteriological Substances	99

Card 2/3

Protection Against Means of Mass Destruction

80V/4103

- Ch. 9. Tasks and Organization of the Local Air Defense Relative to Dwellings, Establishments, Institutions, and State and Collective Farms. Rules of Conduct and Action for the Population According to the Signals of the Local Air Defense 103
- Ch. 10. Reconnaissance of Stricken Areas 110
- Ch. 11. Emergency and Rescuing Operations in Stricken Areas 130
- Ch. 12. Fire Prevention Measures; Extinguishing Fires in Progress and Breaking Out 136
- Ch. 13. Methods and Means of Decontamination; Degassing and Disinfection 145
- Ch. 14. Duties of Personnel of Self-Defense Groups Responding to Signals Given by the Local Air Defense 166

AVAILABLE: Library of Congress (UA926.138 1960)

Card 3/2

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FEDOROV, V.K.

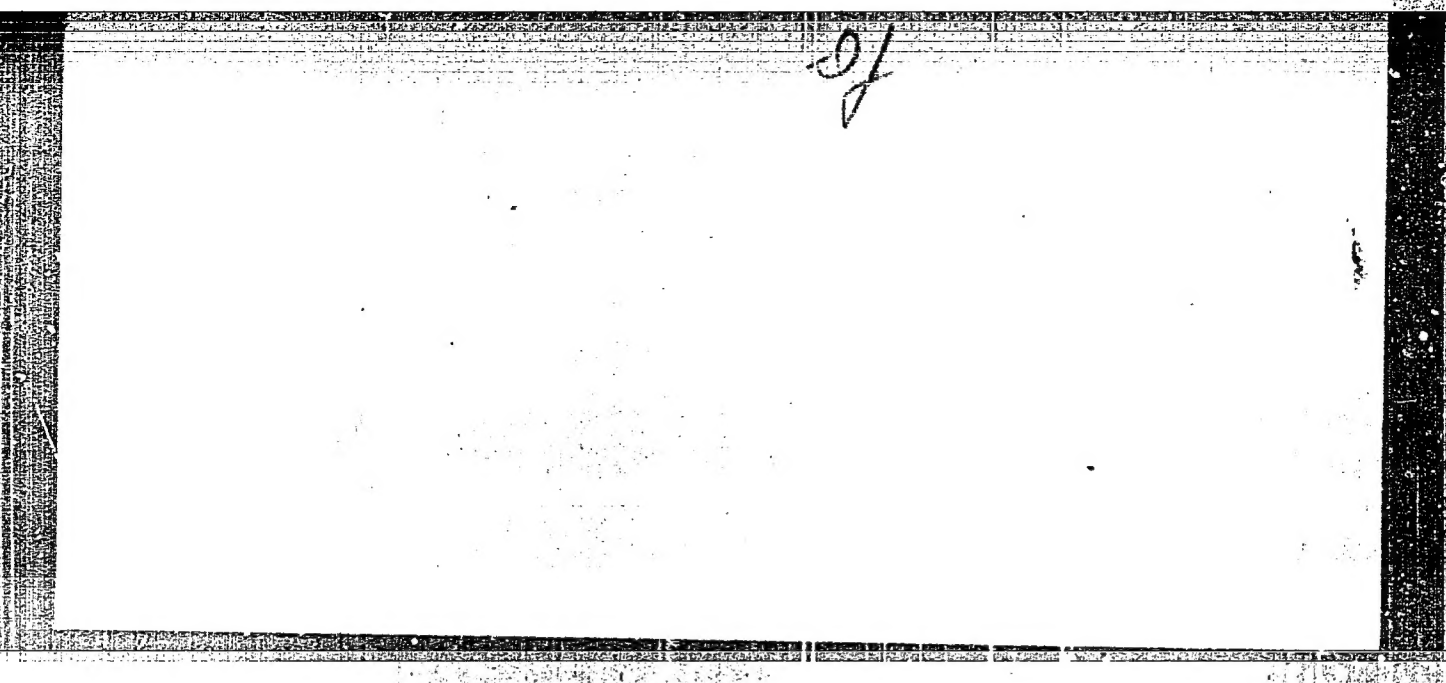
V. Antifriction Iron. V. K. Fedorov. *Materialy v Khimicheskoy Mashinostroyeniye* (Moscow) 1953, No. 14, 23-30; *Referat, Khim.*, Khim. 1954, No. 43748. The antifriction properties of the following pig irons are given: SUFe-1, SUFe-2 (3.2-3.6% C), Te-5 (3.3-3.8% C), iron with

pearlite-ferrite or ferrite structure contg. 0.8-1.0% P, alloyed iron type B contg. C 2.3-3.2, Si 1.1-2.4, Mn 0.50-0.80, P 0.30, S 0.12, Cr 0.35, Ni not less than 0.20, Cu not less than 0.80, and T) 0.30%. The highest antifriction properties were observed in the alloyed iron. Iron of the Te-5 type had somewhat lower antifriction properties. Malleable iron can be used instead of bronze. This kind of iron with a pearlite-ferrite structure contg. 60-80% pearlite had high antifriction properties. It is assumed that the malleable iron can be replaced with high-strength Mg iron contg. spheroidal graphite. M. Hirsch

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APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000412630008-7"

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 172 (USSR) SOV/137-58-12-25247

AUTHORS: *Kand. Tekhn. nauk.*
Fedorov, V. K., Zhavoronkova, R. S.

TITLE: Improvement of Casting Properties of Kh28 Alloy (Uluchsheniye liteynykh svoystv splava Kh28)

PERIODICAL: Sb. statey Vses. n.-i. i konstrukt. in-t khim. mashinostr., 1957, Vol 23, pp 3-13

ABSTRACT: An investigation was made of heat tearing and "black-spot" formation in castings of Kh28 alloy of the following composition (in %): C 0.5 - 1.0, Mn 0.5 - 0.8, Si 0.5 - 1.3, and Cr 26 - 30, depending upon the structure of the casting, pouring temperature, melting procedure, composition of the charge, conditions of inoculation, and rate of cooling. The following specimens were cast: 25x25 mm in cross section, bent at 120, 90, and 30-degree angles, specimens 30 and 60 mm in diam and a rake-shaped specimen, as well as standard specimens for bending tests and for determination of fluidity. The following inoculants were used: 75% FeSi in amounts of 0.5 and 1% of the weight of the metal and a mixture of FeSi + FeTi (1:1) 0.6 - 0.8% of the weight of the metal. The character of the fracture, the microstructure, and

Card 1/2

SOV/137-58-12-25247

Improvement of Casting Properties of Kh28 Alloy

the mechanical properties were investigated. It was established that to avoid hot tearing and "black spots" higher casting temperature is necessary: $>1500^{\circ}\text{C}$ for thin-wall and $>1450^{\circ}$ for thick-wall castings. In order to produce finer grain and to improve the mechanical properties the authors recommend inoculation with the $\text{FeS} + \text{FeTi}$ (1:1) mixture in amounts of 0.6 - 0.8% of the weight of metal, and an increase of the cooling rate by chill casting and setting up a cooling system.

T. F.

Card 2/2

FEDOROV, V.K., kand.tekhn.nauk; SHAPIRO, M.V., inzh.; DEEYZEN, L.S.,

Casting of ring pots and heat stabilizing treatment of compressor piston rings. Sbor.st.NIIKHIMMASH no.23:47-58 '57.
(MIRA 12:5)

(Molding (Founding)) (Piston rings)

FEDOROV, V. K.

p. 2 PHASE I BOOK EXPLOITATION 30V/5488

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya.

Materialy v khimicheskoy mashinostroyeni (Materials in Chemical Machine Building) Moscow, Informatsionno-izdatel'skiy otdel, 1960. 143 p. (Series: Its: Trudy, vyp. 34) 3,000 copies printed.

Sponsoring Agency: Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu and Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya NIIKhimMASH.

Ed. (Title page): V. K. Fedorov, Candidate of Technical Sciences; Editorial Council: Chairman: V. B. Nikolayev; Deputy Chairman: Yu. M. Vinogradov, Candidate of Technical Sciences; B. N. Borisoglebskiy, A. N. Goncharov, Yu. G. Popandopulo, I. N. Yukalov, Candidate of Technical Sciences, and G. M. Yusova, Candidate of Technical Sciences; Ed.: V. I. Glukhov; Tech. Ed.: P. A. Vshivtsev.

Card 1/5

Materials in Chemical (Cont.)

SOV/5488

PURPOSE : This collection of articles is intended for technical personnel in chemical machine building and other branches of the machine and instrument industry.

COVERAGE: The collection deals with the results of investigations on the mechanical, corrosive, and engineering qualities of certain alloys. Also discussed are heat-treatment regimes, the phase composition of stainless steels, methods of checking products, and new designs of apparatus used in checking. References accompany each article.

TABLE OF CONTENTS:

Gavrilov, V. M. [Engineer], and V. K. Fedorov [Candidate of Technical Sciences]. Crystallization of Alloys in the Elastic-Vibration Field 3

Moskvin, N. I. [Engineer]. Metal Which Will Resist Corrosion in Molten Type Metal Containing Zinc 12

Card 2/5

Materials in Chemical (Cont.)

SOV/5488

Shapiro, M. B. [Engineer], and V. M. Makarov [Engineer]. Induction Hardening of Small-Module Pinions of [Speed] Reducers 26

Chernykh, N. P. [Engineer, Irkutskiy filial NIIKhIMMASHa - Irkutsk branch of NIIKhIMMASH]. Investigation of the Effect of Hydrogen on the Endurance of Certain Steels [Engineers V. D. Molchanova and M. I. Mil' took part in the investigation] 33

Akshentseva, A. P. [Candidate of Technical Sciences], and G. N. Shumratova [Engineer]. Effect of Heat Treatment on the Phase Composition of 1Kh18N9T and Kh18N12M3T Steels [V. N. Dayatlova, P. T. Dmitriyev, B. N. Shevelkin, A. M. Shabanova, Z. K. Ogurtsova, and L. Ye. Lobanova took part in the investigation] 50

Dyatlova, V. N. [Engineer], and Ye. M. Frolikova [Engineer]. Dependence of the Corrosion Resistance of 1Kh18N9T and Kh18N12M3T Steels on the α -Phase Content 69

Shevelkin, B. N. [Candidate of Technical Sciences]. Effect of Various α -Phase Contents in 1Kh18N9T Steel and α - and σ -Phase Card 3/5

Materials in Chemical (Cont.)

SOV/5488

Contents in Kh18N12M3T Steel on Their Formability [Engineers A. P. Golovanova, L. L. Kravchenko, V. N. Dyatlova, and Candidate of Technical Sciences A. P. Akshentseva took part in the investigation]

82

Khakhlova, N. V. [Junior Scientific Worker], N. S. Dombrovskaya [Doctor of Chemical Sciences], V. G. Kuznetsov [Doctor of Chemical Sciences], and Ye. M. Zhilina [Engineer]. Chemical Investigation of the α -Phase Precipitated From lKh18N9T Steel [X-ray phase analysis was carried out at the Institute of General and Inorganic Chemistry of the Academy of Sciences of the USSR by V. G. Kuznetsov and Z. V. Popova]

104

Yesilevskiy, V. P. [Engineer], and N. S. Akulov [Academician of the Academy of Sciences of the Belorussian SSR]. Ponderomotive Magnetic Method of Determining the α -Phase Content in Austenitic Steel [Equipment was manufactured by NIIKhIMMASH; Technician V. M. Malinin participated in working out the electrical circuit for the α -phasometer]

112

Card 4/5

Materials in Chemical (Cont.)

SOV/5488

Khimchenko, N. V. [Candidate of Technical Sciences], and V. N. Prikhod'ko [Engineer]. Wide-Range Ultrasonic Analyzer for Checking the Structure of Metals [Technicians V. N. Maragayev and N. N. Materanskiy participated in the production of the attachment] 120

Khimchenko, N. V. and V. N. Prikhod'ko. Use of the Wide-Range Ultrasonic Analyzer in Investigating the Structure of Steel and Cast Iron 130

Khimchenko, N. V., V. N. Prikhod'ko, and V. P. Gozak [Engineer]. Checking the Metal Quality of Large Shafts Under Factory Conditions 137

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Card 5/5

GAVRILOV, Y.M., inzh.; FEDOROV, V.K., kand.tekhn.nauk:

Crystallization of alloys in a field of elastic vibrations. Trudy
NIIMKHIMMASH no.34/3-11 '60. (MIRA 14:1)
(Alloys—Metallography)

00101

S/170/61/004/006/013/015
B129/B212

117430

AUTHORS: Leont'yev, A. I., Fedorov, V. K.

TITLE: Calculation of the one-dimensional flow of a gas in a cylindrical channel for a given law of the heat supply

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 6, 1961, 125-127

TEXT: A solution is given for the problem of the one-dimensional flow of a compressed gas in a cylindrical channel for the case where the coefficient of the hydraulic resistance is constant along the pipe. If strong heat flows and great velocities of the gas flow occur it is necessary to take into account the effect of the temperature factor and the number M on the coefficient of resistance. The authors compare graphically their calculation results with those of other researchers. It is shown that consideration of the compression effect on the coefficient of friction at supersonic velocities of the gas flow will essentially affect the law describing the change of λ ($\lambda = \omega/a^*$ - velocity of the gas flow; viz. critical velocity) along the pipe. The divergence

Card 1/4

23757

Calculation of the one-dimensional...

S/170/61/004/006/013/015
B129/B212

of λ will increase if M increases at the entrance. The maximum pipe lengths at supersonic speeds of the gas at the entrance of the pipe are comparatively short, and the problem of the expansion of the one-dimensional flow diagram needs further studies for these conditions.

$$\lambda = \lambda_0 \left(1 - \frac{k-1}{k+1} \lambda^2 \right)^{0.5} \sqrt{\frac{T_{cr}}{T_0}} \quad (1)$$

From the results shown in Fig. 2 it is apparent that the effect of the compressibility on the coefficient of friction is given by the change of the critical pipe length for supersonic speeds. Fig. 2 shows the critical length of the pipe as a function of the reduced velocity at the entrance. The dotted curve is taken from S. A. Khristianovich (Prikladnaya gazovaya dinamika (Applied Gas Dynamics), 1948). S. S. Kutateladze and F. S. Voronin are mentioned. There are 3 figures and 4 Soviet-bloc references.

Card 2/4

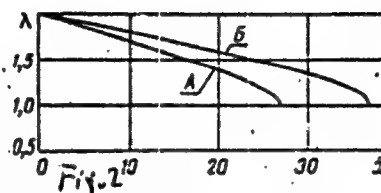
Calculation of the one-dimensional...

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S/170/61/004/006/013/015
B129/B212

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo,
g. Moskva (Institute of Power Engineering imeni
G. M. Krzhizhanovskiy, Moscow)

SUBMITTED: September 22, 1960

Fig. 2: λ as function of
the pipe length calculated
by the author (B) and by
Khristianovich (A).

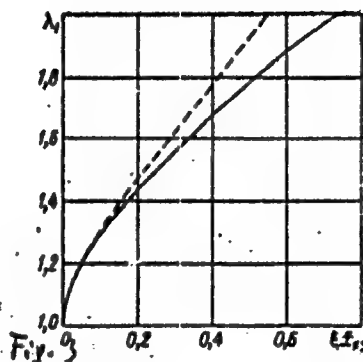


Card 3/4

Calculation of the one-dimensional...

23757
S/170/61/004/006/013/015
B129/3212

Fig. 3: Critical length λ
of the pipe as function of
the reduced velocity at the
entrance.



Card 4/4

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25556
S/170/61/004/008/006/C16
B116/B201

AUTHORS: Leont'yev, A. I., Fedorov, V. X.

TITLE: Effect of inlet conditions upon the law of heat exchange in the initial section of a cylindrical tube

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 8, 1961, 63 - 68

TEXT: The results of an analysis of experimental data of VTI, MEI, and ENIN concerning convective heat transfer in the initial section of a cylindrical tube are presented. The analysis was made on the basis of local simulation. The heat-exchange laws for various conditions at the tube inlet were established. Methods of calculating the convective heat exchange in the initial section of the cylindrical tube are presented for the case $T_{ct} = \text{const}$ and $q_{ct} = \text{const}$. The fundamental ideas of the theory of local simulation have been presented in papers by V. M. Ievlev (Refs. 1 and 2: DAN SSSR, t. 36, no. 6, 1952 and DAN SSSR, t. 37, no. 1, 1952). The equation of the thermal boundary layer for the initial section of a cylindrical tube reads:

Card 1/10

Effect of inlet conditions ...

25556
S/170/61/004/008/006/016
B116/B201

$$\frac{dRe_\theta}{dRe_x} + Re_\theta \frac{1}{t_\theta} \frac{dt_\theta}{dRe_x} = \alpha_m,$$

(1)

$$Re_\theta = \frac{\bar{u}}{\mu_\theta} \int_0^{\Delta} \frac{\rho u}{\bar{u}} \left(1 - \frac{t_\theta}{t_0}\right) \left(1 - \frac{y}{r}\right) dy.$$

where

$$\bar{t}_\theta = \bar{T}_\theta - T_{cr}; \quad t_\theta = T_\theta - T_{cr}; \quad (2)$$

$$dRe_x = \frac{\bar{\rho} \bar{u} dx}{\mu}; \quad \alpha_m = \frac{q_{cr}}{g \rho u c_{p_\theta}};$$

\bar{T}_θ and T_θ denote the temperature found when decelerating the gas in the flow center and in the boundary layer, respectively. $\bar{\rho}$ and $\bar{\mu}$ are, respectively, the density and viscosity with respect to the thermodynamic

Card 2/10

25556
S/170/61/004/008/006/016
B116/B201

Effect of inlet conditions ...

temperature in the flow center. \bar{u} is the velocity in the undisturbed flow. r and x denote the tube radius and the distance from the tube axis, respectively. For solving (1), it is necessary to determine the relationship between α_m and Re_0 . If, during the experiments, the distribution of the specific heat flows, of the wall temperature, and of the static pressures along the tube are measured, the local values of Re_0 and α_m can be determined on the strength of these measurements and from the following formulas:

$$Re_0 = \frac{\int_0^r q_{cr} dx}{\mu c_p g t_0} \quad (3)$$

$$\alpha_m = \frac{q_{cr} D}{Re_0 c_p g \mu t_0} \quad (4)$$

Card 3/10

Effect of inlet conditions ...

25556
B/170/61/004/008/006/016
B116/B201

$$Re_D = \beta(1 - \beta^2)^{\frac{1}{k-1}} Re_{D_0}; \quad (5)$$

$$\beta = \frac{u}{w_{max}}; \quad w_{max} = \sqrt{2c_p T_0}; \quad Re_{D_0} = \frac{\rho_0 w_{max} D}{\mu_0};$$

where μ_0 is the dynamic viscosity with respect to the impact temperature. The value of the dimensionless velocity β is determined on the basis of the distribution of static pressures and from the relation

$$p/p_0 = (1 - \beta^2)^{k/(k+1)} \quad (6)$$

As may be seen from Fig. 1, conditions at the tube inlet have a considerable effect upon the heat exchange in the initial tube section. The equation for the thermal boundary layer, the equation of continuity, and the law of heat exchange are used to derive the calculation formulas. For the case $T_{CT} = \text{const}$, one obtains the formula

Card 4/10

Effect of inlet conditions ...

25556
S/170/61/004/008/006/016
B116/B201

$$x = \frac{7^{0.5}}{0.0102} \left[\frac{4 Re_w^{0.25}}{5.2 T_{cr} Pr^{0.6}} - \frac{Re_{D_1}^{0.25}}{(5.2 T_{cr} Pr^{0.6})^{1/2} \sqrt{2}} \times \right. \\ \times \left(\ln \frac{Re_w^{0.5} + \left(\frac{Re_{D_1} Re_\theta}{5.2 T_{cr} Pr^{0.6}} \right)^{0.25} \sqrt{2} + \sqrt{\frac{Re_{D_1}}{5.2 T_{cr} Pr^{0.6}}}}{Re_w^{0.5} - \left(\frac{Re_{D_1} Re_\theta}{5.2 T_{cr} Pr^{0.6}} \right)^{0.25} \sqrt{2} + \sqrt{\frac{Re_{D_1}}{5.2 T_{cr} Pr^{0.6}}}} + \right. \\ \left. \left. + 2 \operatorname{arctg} \frac{\left(\frac{Re_{D_1} Re_\theta}{5.2 T_{cr} Pr^{0.6}} \right)^{0.25} \sqrt{2}}{\sqrt{\frac{Re_{D_1}}{5.2 T_{cr} Pr^{0.6}} - Re_w^{0.5}}} \right] \right] \quad (14)$$

Card 5/10

25556
S/170/61/004/008/006/016
B116/B201

Effect of inlet conditions ...

and for the case $q_{CT} = \text{const}$ the formula

$$\bar{x} = \frac{1}{2.52 \frac{Nu_1}{Pr^{0.4}} A} \left[- (5.2 Pr^{0.4} A Re_0 + A Re_D - 0.5 \frac{Nu_1}{Pr} Re_0^m + \dots \right. \quad (18)$$

$$\left. + \sqrt{[5.2 Pr^{0.4} A Re_0 + A Re_D - 0.5 \frac{Nu_1}{Pr} Re_0^m]^2 + 20.8 \frac{Nu_1}{Pr^{0.4}} A Re_0^{m+1}} \right]$$

For case II, Fig. 1, $A = 0.214$, $m = 0.53$; for case III, Fig. 1, $A = 0.0331$, $m = 0.32$. When deriving these equations, the effect of the temperature factor upon the heat exchange was taken into account by means of a formula (not given here) by S. S. Kutateladze (Ref. 6: Osnovy teorii teploobmena. Mashgiz, 1957). The method presented here may also be applied to the case of any law concerning heat supply along the tube. Although, as may be seen from Figs. 2 and 3, calculated values agree sufficiently with experimental data, the problem of the effect of inlet conditions upon convective heat exchange does not seem to be definitely

Card 6/10

25556
S/170/61/004/008/006/016
B116/B201

Effect of inlet conditions ...

solved, considering that only three different cases were examined. There are 3 figures and 6 Soviet-bloc references.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo, g. Moskva (Institute of Power Engineering imeni G. M. Krzhizhanovskiy, Moscow)

SUBMITTED: October 21, 1960

Fig. 1: Heat-exchange laws established on the basis of experimental data. Legend: (I) V. V. Kirillov (Ref. 4: Kandidatskaya dissertatsiya, MEI, 1958) (MEI); (II) V. L. Lel'chuk and B. V. Dedyakin (Ref. 3: Voprosy teploobmena. Izd. AN SSSR, 1959); (III) ENIN (Ref. 5: Kalikhman L. Ye. Turbulentnyy pogranichnyy sloy na krivolineynoy poverkhnosti, obtekayemoy gazom. Oborongiz, 1956); (IV) data concerning a plate (α_m

$= 0.0128 Re_0^{-0.25} \frac{T_{CT}}{T_{CT} - 0.5}$). Conditions during experiments at the inlet are shown in the upper part.

Card 7/10

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37561

S/096/62/000/005/008/009
E194/E454

AUTHORS: Kosterin, S.I., Doctor of Technical Sciences, Professor,
Leont'yev, A.I., Candidate of Technical Sciences,
Fedorov, V.K., Engineer

TITLE: Methods of generalizing experimental data on
convective heat transfer during motion of gas in the
initial section of a tube

PERIODICAL: Teploenergetika, no.5, 1962, 70-72

TEXT: A review of existing methods of generalizing experimental data on heat transfer by convection with a turbulent boundary layer which are based on criterial equations shows that none of them is reliable or scientifically well-founded. It is accordingly recommended to use the theory of local modelling, according to which the object of the experiment is to establish the laws of heat transfer and resistance in the turbulent boundary layer; the influence of various external factors such as pressure distribution and wall temperature being allowed for in the boundary layer equations. Equations of the thermal boundary layer for the motion of gas in the initial section of a tube are
Card 1/4

S/096/62/000/005/008/009
E194/E454

Methods of generalizing ...

then written down. To obtain local experimental values of Stanton's criterion it is necessary to determine the gas parameters in the body of the flow, which may be done either from measurements of static pressure distribution over the length of the tube or from thermal measurements alone. The derivation of the following expression for the Stanton and Pekle criteria is explained

$$Pe_{\theta} = \frac{\int_0^x q_{ct} dx}{t_o \lambda_{oo}} \quad (2)$$

$$St = \frac{q_{ct} D}{(Re_{D1} + \frac{4h}{Re_{D1}}) Pr \lambda_{oo} t_o} \quad (6)$$

where q_{ct} - heat flow at the tube wall;

$t_o \approx T_{ct}^* - T_{ct}$ = equilibrium wall temperature - wall temperature;

Card 2/4

Methods of generalizing ...

S/096/62/000/005/008/009
E194/E454

λ_{00} - coefficient of thermal conductivity at the retardation temperature T_{00} ; D - tube diameter. The suffix θ relates to the width of impulse loss. These two expressions may be used to determine local values of the Pekle and Stanton criteria and to establish the law of heat transfer. It is found that all available experimental data obtained in several different ways lie around a single curve corresponding to the equation

$$St = \frac{0.014(1 - \beta^2)^{0.5}}{Pe_{\theta}^{0.25} T_{ct}^{0.5} Pr^{0.5}} \quad (7)$$

where

$$\beta = \frac{u_0}{\sqrt{2c_p T_{00}}}$$

u_0 - initial gas speed. This method of generalising experimental data has the advantage over criterial treatment because it is possible to exclude the influence of the criteria x (which
Card 3/4

Methods of generalizing ...

S/096/62/000/005/008/009
E194/E454

mainly governs the distribution of heat transfer coefficients over the length of the tube) on the laws of heat transfer and the influences of temperature variations and compressibility can be expressed directly. The proposed law of heat transfer is of universal nature and the direct influence of \bar{x} and of the law of application of heat in the distribution of local heat transfer coefficients is allowed for by the equation of the thermal boundary layer. There is 1 figure. J.

ASSOCIATIONS: Institut mekhaniki AN SSSR (Institute of Mechanics AS USSR)
Institut teplofiziki SO AN SSSR (Institute of Thermal Physics SO AS USSR)

Card 4/4

ALEKSEYEVA, M.S.; FEDOROV, V.K.

Results of the study of higher nervous activity in three generations of rats, the progenitors of which were irradiated with Co ⁶⁰ gamma rays. Med. rad. 8 no.3:50-57 Mr '63. (MIRA 17:9)

1. Iz Instituta fiziologii imeni Pavlova AN SSSR.

ACCESSION NR: AR4018336

S/0137/64/000/001/1084/1084

SOURCE: RZh. Metallurgiya, Abs. 11538

AUTHOR: Prolov, N. A.; Belinkiy, A. L.; Fedorov, V. K.; Istrina, Z. F.

TITLE: The properties of new foundry corrosion-resistant (stainless) steel, type Kh17M2TL and the area of its application in chemical machine building

CITED SOURCE: Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr., vy*p. 43, 84-87

TOPIC TAGS: stainless steel, stainless steelcasting,
chromium nickel steel, acid resistant steel, corrosion resistant steel

TRANSLATION: Steel has higher casting properties than Cr-Ni-steel of the austenitic class. Casting shrinkage determined on an instrument designed by Bol'shakov amounts to 2.12-2.21%. The flowability was determined according to a spiral probe (with a pouring temperature of 1,400 degrees the length of the spiral is equal to 300 mm; at 1,600 degrees, it is equal to 740 mm). The internal shrinkage blisters were studied on conical and cylindrical probes. In the former, a concentration of shrinkage blisters forms; in the latter, there is a large zone of shrinkage porosity, increasing as the temperature of pouring rises. Heat treatment (annealing at 760-
Card 1/2

ACCESSION NR: AR4018336

780 degrees for 2 hours) of steel does not influence its mechanical properties and should be conducted for the purpose of removing casting stresses and for averting propensity for intercrystalline corrosion. Steel has good corrosion resistance in 74% boiling acetic acid and at 78% thermic phosphoric acid at 100 degrees, and is recommended as a substitute for Cr-Ni-Steel type 18-8.

SUB CODE: MM

ENCL: 00

Card 2/2

KUTATELADZE, S.S.; LEONT'YEV, A.I.; RUBTSOV, N.A.; GOL'DSHTIK,
M.A.; VOLCHKOV, E.P.; DAVYDOVA, M.V.; DRUZHININ, S.A.;
KIRILLOVA, N.N.; MALENKOV, I.G.; MOSKVICHEVA, V.N.;
MIRONOV, B.P.; MUKHIN, V.A.; MUKHINA, N.V.; REBROV, A.K.;
FEDOROV, V.K.; KHABAKHPASHEVA, Ye.M.; SHTOKOLOV, L.S.;
SHPAKOVSKAYA, L.I., red.

[Heat and mass transfer and friction in a turbulent
boundary layer] Teplomassobmen i trenie v turbulentnom
pogranichnom sloe. Novosibirsk, Red.-izd. otdel Sibir-
skogo otd-nia AN SSSR, 1964. 206 p. (MIRA 18:1)

17011-65 EMP(1)/EMP(m)/EMP(c)/EMP(n)-2/ENG(m)/ENG(d)/EFR/FCS(x)/EHA(1)
 ACCESSION NR: AP5006227 Pd-1/Pr-4/PG-4/F1-L 5/1170/65/006/002/0192/0203

AUTHOR: Fedorov, V. K.

TITLE: An engineering method for calculating convective heat exchange in a continuous ambient gas flow

SOURCE: Inzhenerno-fizicheskii zhurnal, v. 8, no. 2, 1965, 198-203

ABSTRACT: gas flow, heat transfer, convective heat transfer, heat exchange, heat transfer coefficient, flow around plate, flow around cylinder, flow around sphere

An engineering method for calculating convective heat exchange in a continuous ambient gas flow is presented. The method is based on the distribution of the local heat transfer coefficient along the surface of the flows around a plate

$$Nu_x = 0,332 \sqrt{Re_x} \sqrt{Pr} \left(\frac{3Ax(\bar{T}_{f,1} - 1 + Ax)}{(\bar{T}_{f,1} - 1 + Ax)^2 - (\bar{T}_{f,1} - 1)^2} \right)^{\frac{1}{4}}$$

$$Nu_L = 0,47 \sqrt{Re_L} \sqrt{Pr} \left[(1 - \sqrt{1 - P}) + (1 - P)^{\frac{1}{4}} \right]$$

Card 1/2

L 45121-65
ACCESSION NR: AP5006227

a transverse flow around a cylinder

$$Nu_D = 0.664 \sqrt{Re_D} \sqrt[3]{Pr} \frac{\sin^2 \bar{x}}{(1 - \cos 2\bar{x})}$$

and at the frontal point of a cylinder

$$Nu_D = 0.94 \sqrt{Re_D} \sqrt[3]{Pr} \quad \text{r.e. } Re_D = \frac{\rho_\infty u_\infty D_0}{\mu_\infty}$$

and a transverse flow around a sphere

$$Nu_D = 0.7 \sqrt{Re_D} \sqrt[3]{Pr} \frac{\sin^2 2\bar{x}}{\left(\frac{1}{2} \cos^2 2\bar{x} - \frac{3}{2} \cos 2\bar{x} + 1 \right)^{\frac{1}{3}}}$$

not proposed. The calculations agree well with experimental data. Orig. art. has:
1 figure, 31 formulas.

ASSOCIATION: Institut stroitel'noy fiziki (Institute of Structural Physics)

SUBMITTED: 13May64

ENCL: 03

SUB CODE: TD, MI:

NO REF SOV: 008
Card 2/2 m/c

OTHER: 000

L 5151-66 EWT(d)/EWT(1)/EWP(m)/EWT(m)/EWP(w)/EPF(c)/ETC/EPF(n)-2/EWG(m)/
EWA(d)/T-2/EWP(k)/FCS(k)/EWA(h)/ETC(m)/EWA(1) Wd

ACCESSION NR: AP5020939

UR/0170/65/009/002/0171/0176
538.244

AUTHOR: Fedorov, V. K.; Litinskiy, E. M. 41.6

66
63
B

TITLE: Investigation of the heat transfer of a rectangular wedge in transverse gas flow

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 9, no. 2, 1965, 171-176

TOPIC TAGS: convective heat transfer, heat transfer coefficient, gas flow, transverse flow, flow angle, angle of attack, wedge body, turbulent boundary layer, boundary layer flow

ABSTRACT: Most of published studies on the heat transfer of complex-shape solids with forced convection are devoted to the determination of the mean value of the heat transfer coefficient. In order to obtain a correct solution in certain scientific and technological problems, however, it is necessary to know the distribution of the local heat transfer coefficients. Studies on the heat exchange of a wedge in transverse flow have been insufficient. The Eckert solution (Eckert, E. VDE -- Forschungsheft, 416, 1942) holds true only for a 45° angle-of-attack. The present author uses the theory of local simulation

Card 1/3

0901 0081

L 5151-66

ACCESSION NR: AP5020939

and the formulas

$$Pe_1 = \int q_{w1} dx / (T_{s1} - T_0) \lambda_0, \quad (2)$$

$$St = \alpha / \rho_0 u_0 c_p g. \quad (3)$$

to analyze the experimental data dealing with angles-of-attack from 90° to less than 45°. Results show that with 90° > α > 45° angles-of-attack, the heat transfer law may be expressed by

$$St = 0.36 / Pe_1 Pr^{1/4}. \quad (4)$$

Gas flow is then investigated with uniform distribution of temperatures and flow rates in an incoming flow. Gas motion in the incoming flow is considered isentropic with the geometric aspects being determined by the geometry of the wedge. The theoretical data show satisfactory agreement with the experimental data. Experimental data are also obtained for heat transfer at a α = 0° angle-of-attack, when turbulent flow appears at the boundary of the wedge. The experimental setup and the procedure are described. Orig. art. has: 4 figures and 15 formulas.

Card 2/3

L 5151-66

ACCESSION NR: AP5020939

ASSOCIATION: Institut stroitel'noy fiziki, Moscow (Institute of Construction Physics) 3

SUBMITTED: 18Jan65

ENCL: 00

SUB CODE: TD, ME

NO REF SOV: 005

OTHER: 003

Card 3/3 *nd*

L 32996-66 EWT(1)/EWP(m) WW

ACC NR: AP6014985

SOURCE CODE: UR/0170/66/010/005/0584/0591

AUTHOR: Leont'yev, A. I.; Fedorov, V. K.

ORG: Institute of Construction Physics, Moscow (Institut stroitel'noy fiziki, Moskva)

TITLE: Experimental investigation of convective heat transfer in the movement of a gas in the inlet section of a cylindrical tube

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 5, 1966, 584-591

TOPIC TAGS: heat transfer, gas flow, thermodynamic analysis

ABSTRACT: The experimental section consisted of a stainless steel tube with an outer diameter of 30 mm, an inside diameter of 24.3 mm, and a length of 1052 mm. A diagram of the equipment is given. All measurements were made under steady state conditions. Experiments were made at three values of the Mach number at the inlet of the tube: 0.28, 0.36, and 3. The temperature factor T_{CT} varied from 1 to 2.05 at $q_{CT} = \text{const.}$ The following parameters were measured: p_0 , the stagnation pressure at the inlet of the tube; p , the distribution of the static pressure along the length of the tube; T_{CT} , the temperature distribution at the wall over the length of the tube; T_0 , the stagnation temperature at the inlet

Cord. 1/2

UDC: 536.25

L 32996-66

ACC NR: AP6014985

of the tube; G, the air flow rate; Q, the power supplied to the experimental section. The value of the specific heat flux was determined by the formula:

$$q_{\pi} = (Q - Q') / \pi D l. \quad (1)$$

Initial conditions are shown in two large tables. According to the conclusion of the article, the general heat transfer law governing turbulent heat transfer in the boundary layer of the initial section of a tube has the form:

$$St = \frac{0.014}{Pe^{0.4}} \left(\frac{1 - \beta^2}{T_{\pi} Pr} \right)^{0.5}. \quad (6)$$

Orig. art. has: 6 formulas, 3 figures and 2 tables.

SUB CODE: 20/ SUBM DATE: 26Nov65/ ORIG REF: 011/ OTH REF: 003

Card 2/2 *pla*

L 29008-66 ENT(m)/EMP(t)/ETI JD SOURCE CODE: UR/0413/66/000/007/0061/0061
 ACC NM: AP6018841

AUTHOR: Gulyayev, A.P.; Yukalov, I.N.; Fedorov, V.K.; Yakhnina, V.D.; Saporov, K.;
 Landa, A.F.

ORG: none

TITLE: Nonmagnetic iron. Class 40, No 180353

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 61

TOPIC TAGS: cast iron, nickel containing alloy

ABSTRACT: A new nonmagnetic cast iron is proposed which has a reduced nickel content. This iron has the following chemical composition (in %):

Carbon	3.0-3.1
Silicon	2.7-3.14
Manganese	6-8
Sulfur	0.02-0.03
Phosphorus	0.05-0.06
Chromium	0.1-0.2
Nickel	5-6
Copper	2.0-2.5
Magnesium	0.1-0.14

SUB CODE: 11 / SUBM DATE: 21Aug64

Card 1/1 BLG

UDC: 669.131.7

L 29008-66 EMT(m)/EWP(t)/ETI JD
ACC NR: AP6018841

SOURCE CODE: UR/0413/66/000/007/0061/0061

AUTHOR: Gulyayev, A.P.; Yukalov, I.N.; Fedorov, V.K.; Yakhnina, V.D.; Saparov, K.;
Landa, A.F.

34
3

ORG: none

TITLE: Nonmagnetic iron. Class 40, No 180353

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 61

TOPIC TAGS: cast iron, nickel containing alloy

ABSTRACT: A new nonmagnetic cast iron is proposed which has a reduced nickel content. This iron has the following chemical composition (in %):

Carbon	3.0-3.1
Silicon	2.7-3.14
Manganese	6-8
Sulfur	0.02-0.03
Phosphorus	0.05-0.06
Chromium	0.1-0.2
Nickel	5-6
Copper	2.0-2.5
Magnesium	0.1-0.14

[PRS]

SUB CODE: 11 / SUBM DATE: 21Aug64

UDC: 669.131.7

Card 1/1 BLG

FEDOROV, V. K.

Fedorov, V. K. - "The effect of average and large-sized doses of alcohol on the cortex of the brain," Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 194-228

Bibliog: 7 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

FEDOROV, V. K.

Fedorov, V. K. - "Investigation of the type of nervous activity in an unrestrained dog,"
Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 302-11, - Bibliog: 6 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

FEDOROV, V. K.

Fedorov, V. K. and Yakovleva, V. V. - "The analysis of the physiological mechanism of experimental neurosis," *Trudy fiziol. laboratorii im. Pavlova*, Vol. XV, 1949, p. 364-85, - Bibliog: p. 385

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

FEDOROV, V. K.

Fedorov, V. K. - "On the primary effect of narcotics (alcohol and chloral hydrate) on the large hemispheres of the brain," Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 171-93, - Bibliog: 11 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

FEDOROV, V. K.

Fedorov, V. K. - "The relation of continued reflexes on the physical strength of positive irritants," Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 117-23

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

FEDOROV, V. K.

Fedorov, V. K. - "Conditional functional significance of the start, continuance and cessation of conditional irritants," Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 80-99, - Bibliog: 8 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

FEDOROV, V. K.

Fedorov, V. K. - "Conditions relating to the appearance of internal retardation,"
Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 100-09, - Bibliog: 15 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

FEDOROV, V.K.

Effect of conditioned reflexes on the value of unconditioned salivary reflexes. Fiziol.sh.SSSR 36 no.5:511-518 Sept-Oct 50 (GLML 20:4)

1. Physiological Department of the Institute of Experimental Medicine of the Academy of Medical Sciences, Leningrad.

2. Conditioned reflexes; relation between cortex and subcortical centers.

FEDOROV, V. K.

Method of studying conditioned reflex activity of mice., Zhur. vye, nerv, deiat., 1,
No. 5, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952.

ALEKSANYAN, A.M.; TROSHIKHIN, V.A.; FENOROV, V.I.

Against IU. Konorskii's reactionary criticism of I.P. Pavlov's theories. Izv.AN Arm.SSR.Biol.i sel'khoz.nauki. 4 no.2:107-118 '51.
(MLRA 9:8)

1. Institut fiziologii Akademii nauk Armyanskoy SSR.
(Conditioned response)

FEDOROV, V. K.

"Achievements of the Past Twenty Years of Pharmacological Research in the Field of Higher Nervous Activity." (Report No. 2, Pharmacology and Toxicology, Volume XIV, 1951, No. 3.

Extracted from Pharmacology of Ganglionic Reflexes by S. V. Anichkov.

Fiziologicheskii Zhurnal SSSR, Vol. 38, No. 1, pp 3-12, Jan/Feb 1952, Moscow/
Leningrad

FEDOROV, V.K.

Investigation on the motility of nervous processes in mice. *Fiziol. zh.SSSR* 37 no.2:145-151 Mar-Apr 51. (CMLL 21:1)

1. Laboratory of the Experimental Genetics of Higher Nervous Activity of the Institute of Physiology imeni I.P.Pavlov of the Academy of Sciences USSR.

FEDOROV, V.K.

~~SECRET~~
On the training of responses of nervous processes in mice by multiple changes of a pair of reflexes. Fiziol.sh.SSSR 37 no.3:283-289 May-June 51. (CLML 21:1)

1. Institute of Physiology imeni I.P.Pavlov of the Academy of Sciences USSR, Leningrad.

LOMONOS, P.I.; FEDOROV, V.K.

Functional capacity of cortical cells in stimulation of larger hemispheres of the brain. *Fiziol. zh. SSSR* 37 no.5:579-586 Sept-Oct 51.
(CML 21:4)

1. Physiology Department imeni I.P. Pavlov, Institute of Experimental Medicine, Academy of Medical Sciences USSR, Leningrad.

FEDOROV, V.K.

Basic principles of correlation of various motor reactions. Fisiol.
zh. SSSR 38 no. 5:559-565 Sept-Oct 1952. (OIML 23:3)

1. Physiological Department imeni Academician I. P. Pavlov of the
Institute of Experimental Medicine, Academy of Medical Sciences
USSR, Leningrad.

FEDOROV, V. K.

Problem of inheritance of acquired characteristics in mice.
Doklady Akad. nauk SSSR 84 no. 5:1061-1064 11 June 1952. (CLML 22:3)

1. Presented by Academician K. M. Bykov 16 April 1952. 2. Institute
of Physiology imeni I. P. Pavlov, Academy of Sciences USSR.

FEDOROV, V.K.

Inheritance of changes in the higher nervous activity in animals. Izv. AN
SSSR Ser.biol. no.5:3-15 S-0 '53. (MLA 6:9)

1. Institut fiziologii im. I.P.Pavlova.

(Nervous system) (Heredity)

FEDOROV, V.K. [reviewer].

"Proceedings of the fifteenth meeting on problems of higher nervous activity marking the fiftieth year of Academician I.P.Pavlov's teachings on conditioned reflexes." Reviewed by V.K.Fedorov. Sov.kniga no.8:28-33 4g '53.

(MLA 6:8)

(Nervous system)

IVANOV-SMOLENSKIY, A.G. [author]; FIEDOROV, V.K. [reviewer].

Discussion on the problem of types of higher nervous function in man;
discussion of A.G.Ivanov-Smolenskii's article "On the study of types of the
higher nervous function in animals and man," Fiziol.shur. 39 no.5:634-639
S-0 '53. (MIRA 6:10)

(Nervous system) (Ivanov-Smolenskii, A.G.)

FEDOROV, Vikt.K.

Formation of a natural digestive reflex in mice. Trudy Inst.fiziol.
no.2:347-351 '53. (MLRA 7:5)

1. Laboratoriya eksperimental'noy genetiki vysshey nervnoy deyatel'nosti
(sveduyushchiy - V.K.Krasuskiy). (Reflexes)

FEDOROV, Vikt.K.

Effect of exercising the nervous system of parents upon the mobility of neural processes in the descendants (mice). Trudy Inst.fiziol. no.2:276-286 '53.

(MIRA 7:5)

1. Laboratoriya eksperimental'noy genetiki vysshey nervnoy deyatel'nosti (zavednyushchiy - V.K.Krasuskiy).

(Nervous system) (Inheritance of acquired characters)

FEDOROV, Vikt.K.

Rare variation of the type of higher nervous activity with strong unbalanced inert neural processes. Trudy Inst.fiziol,no.2:136-144 '53.
(MIRA 7:5)

1. Laboratoriya eksperimental'noy genetiki vysshey nervnoy deyatel'-nosti (zaveduyushchiy - V.K.Krasuskiy). (Nervous system)

FEDOROV, V. K.

"Effect of Caffeine on the Higher Nervous Activity of Mice."
Cand Biol Sci, Inst of Physiology, Acad Sci USSR, Leningrad, 1953.
(RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

The influence of caffeine on the activity of central nervous system of mice. II. Prolonged administration of moderate doses of caffeine. Vikt. K. Fedorov, *Zhiv. Fiziol. Nervnoi Depol. im. I. P. Pavlova*, 116-23 (1954), of C.A. 46, 116334. — Caffeine was fed with food in doses of 0.2 to 0.4 mg./mouse/day for 30 days, during which period a conditioned reflex to food was established. After the discontinuation of caffeine feeding a temporary lowering of responses to conditioned reflex is obtained. A considerable lowering of the activity of nervous processes accompanies the withdrawal of caffeine from food. J. A. Stekel

Inst. Physiology in Peoria, AS USSR

GLEBOVSKIY, A.V.; FEDOROV, Vikt.K.

Comparative physiological investigations on the mobility of neural processes. Zhur. vys. nerv. deiat. 4 no.3:424-432 My-Je '54.

(MIRA 8:2)

1. Institut fiziologii imeni I.P.Pavlova Akademii nauk SSSR.

(NERVOUS SYSTEM, physiology.

lability of neural processes, determ. with conditioned reflex technic)

(REFLIX, CONDITIONED,

determ. of neural lability)

FEDOROV, Vikt. K.

Effect of caffeine on the higher nervous activity in mice. Report
No.3: Effect of small and medium doses of caffeine on differentiat-
ing inhibition. Zhur. vys. nerv. deiat. 4 no.3:433-438 Vy-Je '54.
(MLRA 8:2)

1. Institut fiziologii imeni I.P.Pavlova Akademii nauk SSSR.
(CEREBRAL CORTEX, effect of drugs on,
caffeine, variation of differentiation inhib. in mice)
(CAFFEINE, effects,
on cerebral cortical differentiation inhib. in mice)

GLEBOVSKIY, A.V.; FEDOROV, Viktor, I.

Method of comparative physiologic investigations of the higher nervous activity in animals. Zhur.vys.nerv.deiat. 4 no.4:581-585 Ji-Ag '54.

(MLRA 8:3)

1. Institut fiziologii im. I.P.Pavlova Akademii nauk SSSR.
(CENTRAL NERVOUS SYSTEM, physiology,
higher nervous funct. tests in animals)

FEDOROV, Vikt. K.

Physiologic mechanism of the abatement of conditioned reflexes
towards senility. Zhur. vys. nerv. deiat. 4 no.4:568-573 J1-Ag '54.
(MIRA 8:3)

1. Institut fiziologii im. I.P.Pavlova Akademii nauk SSSR.
(AGING,
age factor in conditioned reflex form. in mice)
(REFLEX, CONDITIONED,
age factor in reflex form. in mice)

FEDOROV, V.K.

Hereditary transmitting of modifications of the superior
nervous activity in animals. *Analele biol* 9 no.2:55-69
Ap-Je '54.

MALYUGINA, L.L.; MIRONOVA, A.I.; ~~FEDOROV, V.K.~~; SHABAD, L.M.

Significance of typologic characteristics of the higher nervous function in the formation and development of tumors produced by carcinogens in mice. Biul. eksp. biol. i med. 38 no.9:65-68 S '54.
(MLHA 7:12)

1. Iz laboratorii eksperimental'noy genetiki vyashey nervnoy deyatel'nosti (sav. V.K.Krasuskiy) Instituta fiziologii imeni I.P.Pavlova (dir. akademik K.M.Bykov) AN SSSR i laboratorii eksperimental'noy onkologii (sav. chlen-korrespondent AMN SSSR prof. L.M.Shabad) Instituta onkologii (dir. chlen-korrespondent AMN SSSR prof. A.I. Serebrov) AMN SSSR, Leningrad.

(NEOPLASMS, experimental,
higher nervous funct. in, role in form. & develop. of tumors)

(CENTRAL NERVOUS SYSTEM, function tests,
typing of higher nervous funct., role in form & develop. of exper. tumors)

FEDOROV, Vikt. K.

New data on the investigation of acquired characteristics
in mice. Dokl. AN SSSR 94 no.5:953-955 F '54. (MLRA 7:2)

1. Institut fiziologii im. I.P.Pavlova Akademii nauk SSSR.
Predstavleno akademikom K.M.Bykovym. (Heredity)

Name: FEDOROV, Viktor Konstantinovich

Dissertation: On the Physiology of the Higher
Nervous Activity of Mice

Degree: Doc Biol Sci

Affiliation: [not indicated]

Defense Date, Place: 14 Oct 55, Council of the Inst of
Physiology imeni Pavlov, Acad Sci
USSR

Certification Date: 28 Apr 56

Source: BMVO 4/57

~~U.S.S.R. FEDOROV, V. K.~~
SOFRONOV, N.S.; FEDOROV, Vict. K.

Effect of harmine on higher nervous activity in animals. Farm.
1 teks. 18 no.3:3-9 My-Je '55. (MLRA 8:9)

1. Laboratoriya eksperimental'noy farmakologii (zav. G.I. Tsob-
kalle) i laboratoriya eksperimental'noy genetiki vyschey nerv-
noy deyatel'nosti (zav. V.K. Krasuskiy) Institut fiziologii
I.P.Pavlova AN SSSR)

(REFLEX, CONDITIONED,
eff. of harmine)

USSR/Medicine - Physiology

FD-2710

Card 1/1 Pub. 33-19/28

Author : Glebovskiy, A. V.,; Fedorov, Vikt. K.

Title : A method for the study of the higher nervous activity of animals

Periodical : Fiziol. zhur. 41, 104-108, Jan-Feb 1955

Abstract : Describes an electrodefensive method and apparatus for the study of conditioned reflex activity of animals such as mice, rats, guinea pigs, rabbits, cats, etc. Diagram; photograph; graphs.

Institution : Institute of Physiology imeni I. P. Pavlov of the Academy of Sciences USSR

Submitted : November 13, 1953

SOFRONOV, N.S.; FEDOROV, Viktor K.

**Effect of harmine on conditioned reflex activity in mice. Trudy
Inst.fiziol. 5:125-130 '56. (MIRA 10:1)**

**1. Laboratoriya eksperimental'noy farmakologii, zaveduyushchiy -
G.I.TSobkhallo, i Laboratoriya eksperimental'noy genetiki vyshey
nervnoy deyatel'nosti, zaveduyushchiy - V.K.Krasuskiy
(HARMINE) (CONDITIONED RESPONSE)**

FEDOROV, Viktor K.

Effect of training the nervous system of mice on the higher nervous activity of their fourth-generation offspring. Trudy Inst. fiziol. 5:135-144 '56. (MIRA 10:1)

1. laboratoriya eksperimental'noy genetiki vysshey nervnoy deyatel'-nosti. Zaveduyushchiy - V.K.Krasuskiy.
(NERVOUS SYSTEM)
(INHERITANCE OF ACQUIRED CHARACTERS)

USSR/Human and Animal Physiology. The Nervous System

T-12

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65723

Author : Fedorov Vikt. K.

Inst : ~~AS USSR~~

Title : Determination of the Type of Higher Nervous Activity in Mice.

Orig Pub : V sb.: Probl. fiziol. tsentr. nervn. sistemy. Moscow, Leningrad, AN SSSR, 1957, 550-556

Abstract : Conditioned motor food reflexes were established in 4 mice to a light and sound stimulus lasting 45 seconds; they were reinforced on the 30th second at two-minute intervals; discrimination was established and alteration performed, followed by errors. The experiments were conducted after one day's fast, the action time of the inhibitory signals was prolonged, the physical strength of the positive signals was increased, inhibitory or positive stimuli were reversed in the stereotype, and the intervals between them were reduced. In one mouse the nervous processes were strong,

Card : 1/2

112

USSR/Human and Animal Physiology. The Nervous System

T-12

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65723

balanced and active; in the second they were strong, un-
balanced and active; in the third--strong, balanced and
passive; and in the fourth-weak and passive.--M.I. Lisina

Card : 2/2

FEDOROV, V.K.

"Typological peculiarities of the higher nervous activity"; collection
of works. Reviewed by V.K.Fedorov. Zhur.vys.nerv.deiat. 7 no.3:
463-465 My-Je '57. (MIEA 10:10)

(TEMPERAMENT) (NERVOUS SYSTEM)

FEDOROV, V.K.

Comparative and physiological study of the higher nervous activity of animals. Trudy Vses. ob-va fiziol., biokhim. i farm. 4:99-104 '58. (MIRA 14:2)

1. Institut fiziologii imeni I.P. Pavlova AN SSSR, Leningrad.
(NERVOUS SYSTEM)

MALYUGINA, L.L., MIRONOVA, A.I., FEDOROV, Vikt. K. SHABAD, L.M.

Significance of typological characteristics of the higher nervous activity in the appearance and development of mouse mammary carcinoma [with summary in English]. Biul. eksp. biol. i med. 45 no.6:85-89 Je '58

(MIRA 11:8)

1. Iz laboratorii eksperimental'noy genetiki vysshey nervnoy deyatel'nosti (sav. V.K. Krasuskiy) Instituta fiziologii im. I.P. Pavlova (dir. akad. K.M. Bykov) AN SSSR i laboratorii eksperimental'noy onkologii (sav. - chlen-korrespondent AMN SSSR L.M. Shabad) Instituta onkologii (dir. - chlen-korrespondent AMN SSSR A.I. Serebrov) AMN SSSR, Leningrad. Predstavlena vystavitel'nym chelnom AMN SSSR V.M. Chernigovskim.

(NEOPLASMS, experimental,

mouse mammary carcinoma, eff. of type of higher nerv. activity (Rus))

AUTHORS: Nemochinova, I. I., Fedorov, Vikt. K. SOV/20-121-1-48/55

TITLE: On the Problem of Sex Relation Among the Progeny of Mice Endowed With Different Functional Properties in Their Nervous Systems
(K voprosu o sootnoshenii polov v potomstve u myshey s razlichnymi funktsional'nymi svoystvami nervnoy sistemy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 1, pp. 169 - 171 (USSR)

ABSTRACT: The physiological differences between the male and female individuals of either sex have been investigated in many papers. In recent time for the first time investigations were carried out which are to clarify the influence of the nervous system on the sex relation of the progeny. Thus, it was proved (Refs 3,4) that this relation may be changed conditional-reflexly within considerable limits. Unfortunately, this communication was confirmed neither by the author himself nor by other researchers. In the present paper the authors give facts on this. The second author paid special attention to the problem of the mobility of the nervous processes in his many years' investigations of the higher nervous activity of rodents (Ref 6).

Card 1/4

On the Problem of Sex Relation Among the Progeny of Mice SOV/20-121-1-48/55
Endowed With Different Functional Properties in Their Nervous Systems

This mobility enables the animal to adapt itself perfectly to the environmental conditions. According to I.P.Pavlov this property of the nervous system is characterized by the velocity of the substitution of the cortical processes of the nerves-stimulation and inhibition - and may be determined by means of various methods. One of these methods is the mutual reformation of the conditional reflexes. Mice of different oncological lines were subjected to the investigation: A and C₅₇HA of high sensitivity to cancer which furnish a rather high percentage of spontaneous ulcers (Refs 2,5), and C₅₇ which are less sensitive to cancer and homozygote with respect of the lacking of the "milk factor". It was proved earlier (Ref 7) that the mobility of the nervous processes of females of a high sensitivity to cancer is greater than of females which are less sensitive to cancer. The mean velocity of the reformation of the conditional reflexes in the case of 91 females of the line A amounts to $2,7 \pm 2,19$ experiments, in the case of 57 females of the line C₅₇HA to $19,5 \pm 0,91$ experiments, and in the case of 163 females of the line C₅₆

Card 2/4

On the Problem of Sex Relation Among the Progeny of Mice SOV/20-121-1-48/55
Endowed With Different Functional Properties in Their Nervous Systems

to only $15,4 \pm 0,86$ experiments. With reference to these obvious differences between the lines of different sensitivity to cancer the authors counted how many male and female descendents existed in order to clarify the connection between the degree of mobility and the sex relation of the progeny (Table 1). On the strength of this material it was assumed that the females with higher mobility produce more males, whereas the more inert parents produce more females. This was confirmed statistically by further investigations. There are 2 tables and 7 Soviet references.

ASSOCIATION: Institut fiziologii im. I.P.Pavlova Akademii nauk SSSR
(Institute of Physiology imeni I.P.Pavlov, AS USSR)

PRESENTED: March 28, 1958, by K.M.Bykov, Member, Academy of Sciences,
USSR

SUBMITTED: March 8, 1958
Card 3/4

On the Problem of Sex Relation Among the Progeny of Mice SOV/20-121-1-48/55
Endowed With Different Functional Properties in Their Nervous Systems

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|-------------------------|-------------------------------|----------------------------------|
| 1. Sex--Genetic factors | 2. Sex--Statistical analysis | 3. Nervous system |
| --Physiological effects | 4. Nervous system--Physiology | 5. Cancer--Physiological factors |

Card 4/4

FEDOROV, Vikt.K.

Effect of single and continuous application of small and medium doses of caffeine on the extintive inhibition in mice. Nauch. soob. Inst. fiziol. AN SSSR no.1:72-74 '59. (MIRA 14:10)

1. Gruppya po izucheniyu genetiki vysshey nervnoy deyatel'nosti u gryzunov (zav.: Vikt.K.Fedorov) Instituta fiziologii imeni Pavlova AN SSSR.

(CONDITIONED RESPONSE) (CAFFEIN—PHYSIOLOGICAL EFFECT)

FEDOROV, Viktor K. (Leningrad)

Current status of the problem of the inheritance of changes in the
higher nervous activity of animals. Zhur. vys. nerv. deiat. 9 no.6:
807-822 N-D '59. (MIRA 13:9)
(NERVOUS SYSTEM) (INHERITANCE OF ACQUIRED CHARACTERS)

17(1)

AUTHORS: Ol'nyanskaya, R. P., Pedorov, Vikt. K. SOV/20-124-1-68/69

TITLE: Basal Metabolic Rate and Typological Characteristics of the Nervous System in Mice (Osnovnoy obmen i tipologicheskiye osobennosti nervnoy sistemy u myshey)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 237-240 (USSR)

ABSTRACT: It is the aim of the present paper to detect which of the characteristic features mentioned in the title find particular expression in the reflex reactions of the respiratory change. The experiment was carried out with 29 male mice of the line C₅₇. To begin with, the conditionally reflex activity of the animals was investigated according to the "motor alimentary method" (dvigatel'no-pishchevaya metodika) (Refs 1, 2, 7). During 2 - 2.5 months the respiratory change was observed in climate chambers for one hour every day. During this procedure the animals were in quiescent state. As can be seen from table one all animals were divided into two groups, according to the results of respiratory change: I. Mice whose basal metabolic rate reached a certain level during the first 18.2 days

Card 1/3

Basal Metabolic Rate and Typological Characteristics of the Nervous System in Mice SOV/20-124-1-68/69

(the average duration until the basal metabolic rate level becomes stable). Low level and low variability coefficient were characteristic of this group. II. For this group of animals no stable level of the basal metabolic rate was achieved. From the results obtained can be concluded that the typological characteristics of the nervous system can be seen from the reactions of the respiratory change. Those characteristic features are particularly expressed by the time the basal metabolic rate requires to attain a stable level. The rate of development of the positive "motor alimentary reflex" and the time required by the basal metabolic rate to attain a stable level coincide most considerably. A less important correlative relation was observed between the rate of change of the conditional reflexes and the mentioned adjustment of the level. The final solution of the problem is left to further research. The results obtained are a first attempt towards revealing the

Card 2/3

Basal Metabolic Rate and Typological Characteristics of the Nervous System in Mice SOV/20-124-1-68/69

relation between the individual properties of the nervous system and the processes of respiratory change. There are 1 figure, 2 tables, and 7 Soviet references.

ASSOCIATION: Institut fiziologii im. I. P. Pavlova Akademii nauk SSSR
(Institute of Physiology imeni I. P. Pavlov, Academy of Sciences, USSR)

PRESENTED: September 8, 1958, by K. M. Bykov, Academician

SUBMITTED: August 20, 1958

Card 3/3

FELOROV, Vikt.K.

Some problems with regard to the present state of studies on the type of the nervous system in animals. Fiziol. zhur. [Ukr.] 6 no. 5:571-576 S-O '60. (MIRA 13:10)

1. Institut fiziologii im. I.P. Pavlova Akademii nauk SSSR, Leningrad.

(NERVOUS SYSTEM)

FEDOROV, Vikt.K.

Comparison of the results of individual studies in the evaluation
of the basic properties of the higher nervous activity in mice.
Zhur. vys. nerv. deiat. 11 no.4:746-752 J1-A₃ '61. (MLA 15:2)

1. Pavlov Institute of Physiology, U.S.S.R. Academy of Sciences, Koltushi.
(NERVOUS SYSTEM) (CONDITIONED RESPONSE)

PEDOROV, Vikt.K.

Study of higher nervous activity in the offspring of trained and standard parents during four generations by the method of motor defense conditioned reflexes. Trudy Inst. fiziol. 10:143-151 '62 (MIRA 17:3)

1. Gruppya fiziologii tipa vysshey nervnoy deyatel'nosti zhivotnykh (sav. - Vikt.K.Pedorov) Instituta fiziologii imeni Pavlova AN SSSR.

OLYANSKAYA, R.P.; TRUBITSYNA, G.A.; FEDOROV, Vikt.K.

Study of typological properties of the nervous system and
gas exchange in rodents. Trudy Inst. fiziol. 10:255-264 '62
(MIRA 17:3)

1. Laboratoriya nevrofiziologicheskikh problem (zav. - K.M.
Bykov [deceased]) i gruppy po izucheniyu genetiki vysshey
nervnoy deyatel'nosti i gryzunov (zav. - Vikt.K.Fedorov)
Instituta fiziologii imeni Pavlova AN SSSR.

FEDOROV, V. K.

Apropos of V.L. Merkulov's article, "Materials on I.P. Pavlov's attitude towards the use of mathematical methods in studying problems in digestion and higher nervous activity." Zhur. nevr. i psikh. 62 no.3:478-479 '62. (MIRA 15:3)
(NERVOUS SYSTEM) (DIGESTION) (MATHEMATICS)
(MERKULOV, V.L.)

FEDOROV, V. K.

Letter to the editor on V.L.Merkulov's article, "Materials on I.P. Pavlov's attitude towards the use of mathematical methods in studying problems in digestion and higher nervous activity." Zhur. nevr. i psikh. 62 no.1:158 '62. (MIRA 15:4)

(NERVOUS SYSTEM)

(DIGESTION)

(MATHEMATICS)

(MERKULOV, V.L.)

FEDOROV, V.K. (Leningrad)

Some physiological mechanisms of the initial development of the
child's mental life. Vop. psikhol. 8 no.3:149-154 My-Je
'62. (MIRA 15:6)
(Thought and thinking) (Psychology, Physiological)